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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,207	09/09/2003	Hiroomi Tsutae	FUJI 136	9107
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/657,207

**Applicant(s)**

TSUTAE, HIROOMI

**Examiner**

Bac H. Au

**Art Unit**

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 May 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.  
4a) Of the above claim(s) 4-17 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-3, 18 and 19 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 31 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date 9 September 2003  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Invention I, claims 1-3 and 18-19, in the reply filed on May 21, 2008, is acknowledged.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsai (U.S. Pat. 6261977).

Regarding claims 1-3, Tsai [Fig.3] discloses a process of cleaning a semiconductor manufacturing system having a reaction chamber and a substrate-supporting electrode provided inside the reaction chamber, a substrate being located on the substrate-supporting electrode when forming a semiconductor film on the substrate, the process comprising:

positioning an insulating cover [26] on the substrate-supporting electrode [21] in tight contact with the substrate-supporting electrode; and

supplying a fluoride-based cleaning gas into the reaction chamber and generating a plasma in the reaction chamber [Col.3 lines 17-31];

wherein the fluoride-based cleaning gas is one of  $\text{NF}_3$ ,  $\text{CF}_4$ ,  $\text{C}_3\text{F}_8$ ,  $\text{C}_2\text{F}_6$ , and  $\text{ClF}_3$   
[Col.3 lines 17-31];

wherein the positioning of the insulating cover in tight contact with the substrate-supporting electrode comprises placing the insulating cover [26] on the substrate-supporting electrode [21], and applying a voltage to the substrate-supporting electrode  
[Col.3 lines 17-31].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 18 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tsai (U.S. Pat. 6261977) in view of Fujisato (U.S. Pub. 2003/0119328).

Regarding claim 18, Tsai [Fig.3; col.1 lines 12-17] discloses a method of manufacturing a semiconductor device comprising:

carrying out a cleaning process according to any one of claims 1 [Discussed above];

setting the substrate on the substrate-supporting electrode in the reaction chamber;

supplying a raw material gas into the reaction chamber; and  
generating a plasma to form a semiconductor film on the substrate [These limitations are inherently disclosed by Tsai in col.1 lines 12-17].

Alternatively, Fujisato [Paras.102-109] more clearly discloses a method comprising:

carrying out a cleaning process according to claim 1;  
setting the substrate on the substrate-supporting electrode in the reaction chamber;

supplying a raw material gas into the reaction chamber; and  
generating a plasma to form a semiconductor film on the substrate.

Because both references teach methods of deposition of films and cleaning of the plasma deposition apparatus, it would have been obvious to one skilled in the art to substitute one method for the other to achieve the predictable results of having an effective film forming process and an effective plasma system cleaning process.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai (U.S. Pat. 6261977) in view of Jurgensen (U.S. Pat. 6852243).

Regarding claim 19, Tsai [Figs.2-3; col.3 line 17 – col.4 line 8] discloses positioning of the insulating cover in tight contact with the substrate-supporting electrode by applying a voltage to the substrate-supporting electrode. Tsai fails to disclose wherein the positioning of the insulating cover in tight contact with the substrate-supporting electrode comprises placing the insulating cover on the substrate-

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supporting electrode, and clamping the insulating cover to the substrate-supporting electrode by a mechanical element. However, Jurgensen [Col.9 lines 12-24] discloses wherein the positioning of a cover in tight contact with the substrate-supporting electrode comprises placing the cover on the substrate-supporting electrode, and clamping the cover to the substrate-supporting electrode by a mechanical element. Jurgensen makes obvious the suitable alternatives of clamping by a mechanical element and by applying electrostatic force. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Jurgensen into the method of Tsai to include wherein the positioning of the insulating cover in tight contact with the substrate-supporting electrode comprises placing the insulating cover on the substrate-supporting electrode, and clamping the insulating cover to the substrate-supporting electrode by a mechanical element. The ordinary artisan would have been motivated to look to analogous art teaching alternative suitable or useful methods of performing the disclosed steps set forth above. Art recognized suitability for an intended purpose has been recognized to be motivation to combine. MPEP 2144.07.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bac H. Au whose telephone number is 571-272-8795. The examiner can normally be reached on Mon-Fri 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zandra V. Smith/  
Supervisory Patent Examiner, Art  
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/B. H. A./  
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